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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,709	12/12/2000	Magnus Par Jandel	34645-00521USPX	3245

7590 10/08/2003

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EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 10/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/719,709

Applicant(s)

JANDEL ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1,2 and 4-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-2 and 4-9 are objected to because of the following informalities:
“definition” should be changed to “definition.” in claim 1, line 10. Appropriate correction is required.

Claims 2 and 4-9 depend upon claim 1, and are therefore objected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 15 recite the limitation "the closed boundary line" in line 2. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 6/1, 6/2, 10, 11, 15/10, and 15/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest").

Regarding claim 1, Strom et al. ("Strom") discloses a method of transmitting an image between a transmitter and a receiver including dividing the image into at least two image regions (Page 7, Sect. 2), coding the image regions into a coded symbol stream (Pages 9-10, Sect. 2.2), where the coding utilizes a symbolic representation having predetermined accuracy levels in the image regions, compressing the coded symbol stream into a compressed bit stream (Page 5, Para. 1). Strom ignores the issue of region description (Page 18, Para. 2), but discloses that it is known to generate a definition of an outer boundary line of the regions, transmit the definition as well as the compressed bit stream to the receiver, and to decode with the aid of the definition (Page 18, Para. 2). Strom discloses that the decoder must either infer the location of region, or must be explicitly told the boundaries of the region. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included generating a region description because it is well known in the art and it provides the decoder with the specific indication of the location of the region.

Regarding claim 2, Strom discloses the different regions are coded to have predetermined accuracy levels independently of each other (Pages 9-10, Sect. 2.2).

Regarding claims 10 and 11, the arguments analogous to those presented above for claims 1 and 2 are applicable to claims 10 and 11, respectively.

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Regarding claims 6/1 and 6/2, Strom discloses generating a shape description, defining the appearance of the closed boundary line of an object in the image (Page 8).

Regarding claims 15/10 and 15/11, the arguments analogous to those presented above for claims 6/1 and 6/2 are applicable to claims 15/10 and 15/11.

5. Claims 5/1, 5/2, 14/10, and 14/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") as applied to claims 1 and 10 above, and further in view of Gonzalez et al. (*Digital Image Processing*).

Regarding claims 5/1 and 5/2, Strom discloses generating a boundary description including various representations including straight lines, circular arcs, chain codes, polygonal approximations, signatures, and boundary segments (Page 8). Strom does not appear to expressly recognize including generating a topology description defining the topological relationship between objects and shapes in the image. However, Gonzalez et al. ("Gonzalez") teaches that it is known to use topology descriptions as regional descriptors (Page 505, Sect. 8.3.2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the boundary description of the image regions disclosed by Strom to include topology descriptions as taught by Gonzalez because it is well known in the art and provides a useful global description of regions in the image.

Regarding claims 14/10 and 14/11, the arguments analogous to those presented above for claims 5/1 and 5/2 are applicable to claims 14/10 and 14/11.

6. Claims 7/1, 7/2, 8/1, 8/2, 9/1, 9/2, 16/10, 16/11, 17/10, 17/11, 18/10, and 18/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical

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Image Compression with Lossless Regions of Interest”) as applied to claims 1 and 10 above, and further in view of Impagliazzo et al. (5,757,974).

Regarding claims 7/1 and 7/2, Strom does not appear to recognize including generating a segment description defining which transform coefficients belong to the respective segment. However, Impagliazzo et al. (“Impagliazzo”) teaches that it is known to generate a segment description 110 (Figure 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the compressing disclosed by Strom to include generating a segment description as taught by Impagliazzo because it allows for the identification of a coefficient.

Regarding claims 8/1 and 8/2, Impagliazzo discloses generating a subset description (Col. 6, lines 49-62).

Regarding claims 9/1 and 9/2, Impagliazzo discloses generating a pointer, defining a position in the bit stream for the segment (Col. 7, lines 33-38).

Regarding claims 16/10, 16/11, 17/10, 17/11, 18/10, and 18/11 the arguments analogous to those presented above for claims 7/1, 7/2, 8/1, 8/2, 9/1, and 9/2 are applicable to claims 16/10, 16/11, 17/10, 17/11, 18/10, and 18/11, respectively.

7. Claims 4/1, 4/2, 13/10, and 13/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. (“Medical Image Compression with Lossless Regions of Interest”) in view of Katata et al. (5,978,515).

Regarding claims 4/1 and 4/2, Strom does not appear to recognize decoding only predetermined parts of the compressed bit stream. However, Katata et al. (“Katata”) teaches that it is known to decode only predetermined parts (Col. 10, lines 29-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

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invention to have modified the decoding disclosed by Strom to include only predetermined parts as taught by Katata because it allows decoding the position and shape of a selected area.

Regarding claims 13/10 and 13/11, the arguments analogous to those presented above for claim 4/1 and 4/2 are applicable to claims 13/10 and 13/11.

8. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Wine et al. (6,477,201).

Regarding claim 3, the arguments analogous to those presented above for claim 1 are applicable to claim 3. Strom does not specify creating a definition of a mask. However, Wine et al. ("Wine") teaches that is known to use a mask indicative of desired encoding quality (Col. 2, lines 22-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the boundary description disclosed by Strom to include using a mask as taught by Wine because it provides another way of emphasizing or de-emphasizing information content of the image.

Regarding claim 12, the arguments analogous to those presented above for claim 3 are applicable to claim 12.

9. Claims 4/3 and 13/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Wine et al. (6,477,201) as applied to claims 3 and 12 above, and further in view of Katata et al. (5,978,515).

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Regarding claims 4/3 and 13/12, the arguments analogous to those presented above for claim 4/1 are applicable to claims 4/3 and 13/12.

10. Claims 5/3 and 14/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Wine et al. (6,477,201) as applied to claims 3 and 12 above, and further in view of Gonzalez et al. (*Digital Image Processing*).

Regarding claims 5/3 and 14/12, the arguments analogous to those presented above for claim 5/1 are applicable to claims 5/3 and 14/12.

11. Claims 6/3 and 15/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Wine et al. (6,477,201) as applied to claims 3 and 12 above.

Regarding claims 6/3 and 15/12, the arguments analogous to those presented above for claim 6/1 are applicable to claims 6/3 and 15/12.

12. Claims 7/3, 8/3, 9/3, 16/12, 17/12, and 18/12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strom et al. ("Medical Image Compression with Lossless Regions of Interest") in view of Wine et al. (6,477,201) as applied to claims 3 and 12 above, and further in view of Impagliazzo et al. (5,757,974).

Regarding claims 7/3, 8/3, 9/3, 16/12, 17/12, and 18/12, the arguments analogous to those presented above for claims 7/1, 8/1, 9/1, 16/10, 17/10, and 18/10 are applicable to claims 7/3, 8/3, 9/3, 16/12, 17/12, and 18/12.

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Other Prior Arts Cited

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,333,212 to Ligtenberg for image compression technique with regionally selective compression;

U.S. Pat. No. 5,845,013 to Bouchard et al. for region-based texture coding and decoding; and

U.S. Pat. No. 6,144,772 to Garland et al. for variable compression encoding of digitized images.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

W

VK
9/29/03

MEHRDAD DASTOURI
PRIMARY EXAMINER
Mehrdad Dastouri